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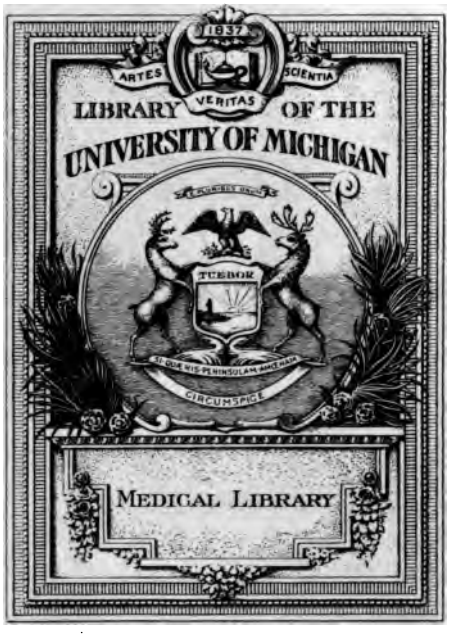
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TRANSACTIONS

OF THE

BRITISH

ORTHOPÆDIC SOCIETY.

VOLUME I.

SESSIONS 1894-95.

PUBLISHED BY THE SOCIETY.

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9, Newhall St., Birmingham.

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25, Weymouth St., Portland Place, London, W.

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Constitution and Rules of the British Orthopædic Society.

NAME, OBJECT, AND CONSTITUTION.

1.—The Society shall be called the "BRITISH ORTHOPÆDIC SOCIETY."

2.—The Society shall consist of Ordinary, Honorary and Corresponding Members.

3.—The object of the Society shall be the advancement of Orthopædic Surgery.

4.—All registered Medical Practitioners shall be eligible as members of the Society.

5.—The Officers of the Society shall be, an Hon. Treasurer, two Hon. Secretaries (one from London and one from the country), and a Council consisting of nine members (four to form a quorum).

APPOINTMENT OF OFFICERS.

6.—The Hon. Treasurer shall be elected annually, and shall be eligible for re-election, and the Hon. Secretaries shall hold office for three years, except in the case of those first appointed, one of whom shall retain the office for four years. Of the Council one-third shall retire annually in rotation, and shall not be eligible for re-election during the succeeding year.

SUBSCRIPTION.

7.—The subscription shall be half a guinea annually, payable in advance on the first day of November of each year.

ELECTION OF MEMBERS.

8.—Every candidate for membership of the Society shall be proposed in writing to the Council by two or more subscribing members having personal knowledge of him; such proposal shall be made not less than three weeks before a meeting of the Council, and if approved the candidate shall be proposed and his address and qualifications shall be submitted to the subsequent Ordinary Meeting. The Ballot for election shall be held at the Ordinary Meeting, the next after that at which the candidate was proposed.

9.—The mode of election shall be by ballot, one black ball in four to exclude.

NOTICE OF ORDINARY MEETINGS.

10.—The Hon. Secretaries shall give not less than fourteen days' notice of each Ordinary Meeting, setting forth the business to be transacted.

DUTIES OF HON. TREASURER.

11.—The duties of the Hon. Treasurer shall consist in having charge of the funds of the Society, in receiving sums due to it, and in paying such bills as are directed by the Council to be discharged under the signature of its Chairman; he shall make up and balance the accounts of the Society to the 1st November in each year, shewing the receipts, payments and liabilities remaining undischarged. At the last meeting in August the Society shall, on the nomination of the Chairman, appoint from those members who are not in office, two auditors who shall examine the Treasurer's accounts with the vouchers annexed, and deliver a written report on the subject to the Council at their first meeting in the ensuing November.

DUTIES OF HON. SECRETARIES.

12.—The duties of the Hon. Secretaries shall consist in taking minutes of the transactions of the Society and of its Council, in reading these minutes at the commencement of each Ordinary Meeting, as likewise any letters or reports which may have been received, in presenting the necessary papers and documents to the Chairman, in sending notices to members of proceedings in which they are concerned, and in conducting any correspondence which may be directed by the Society. In performing these duties they are authorized to employ messengers, to prepay all postage, and to use printed forms.

MEETINGS OF THE SOCIETY.

13.—The Annual General Meeting of the Society shall be held in London early in December, and three Ordinary meetings shall be held in each year, namely (1) after the Annual General Meeting in December, (2) early in May, and (3) in, or near the first week in August, the precise date to be determined by the Council; one of the three meetings to be held in the country at a time and place to be determined by the Council.

VISITORS.

14.—Members may introduce visitors to the Ordinary Meetings of the Society, but the same visitor shall not be introduced oftener than once a year. Every member shall sign the attendance book at each meeting, and in this book the names of visitors shall be entered together with the introducers.

CHAIRMAN.

15.—The members present at the beginning of each meeting shall elect a Chairman by a show of hands.

SPECIAL GENERAL MEETINGS.

16.—A Special General Meeting shall be convened by the Council, either on the resolution of a majority of its own quorum, or on the written requisition of six members of the Society, whether members of the Council or not, a month's notice being given and the object of the meeting specified. No subjects shall be discussed at such meetings except those for which the meeting shall have been convened.

CONDUCT OF ORDINARY MEETINGS.

17.—Twenty minutes shall be allowed for the reading of a paper, and ten minutes to each speaker in any discussion which may arise.

ALTERATION OF RULES.

18.—No new rule shall be added and no existing rule shall be rescinded or amended except at a Special General Meeting convened by the Council, or on the requisition of at least six members, stating the precise nature of the addition or alteration intended to be proposed.

BYE-LAWS.

19.—The Council shall have power to frame bye-laws for the conduct of the Ordinary Meetings of the Society.

List of Members.

ABBOTT, C. E., M.R.C.S.	Shrapnells, Taunton.
BIDWELL, L. A., F.R.C.S. Eng. ...	59, Wimpole St., Cavendish Square, London, W.
BLAGG, A. F., M.R.C.S., L.R.C.P. ...	6, West Mall, Clifton, Bristol.
BRODHURST, B E., F.R.C.S., Eng....	20, Grosvenor St., London, W.
CLARKE, J. JACKSON, F.R.C S. Eng.	9, Old Cavendish St., London, W.
EWENS, J., L.R C P.	The Elms, Coton Hill. Bristol.
FREER, E. LUKE, M.R.C.S. Eng. ...	9, Newhall St., Birmingham.
GRATTAN, N., F.R.C S. Edin. ...	24, South Mall, Cork.
HOLLAND, C. T., M.R.C.S., L.R.C.P.	86, Princes Road, Liverpool.
JACKSON, T. VINCENT, F.R.C S. ...	Waterloo Road South, Wolverhampton.
JONES, R., F.R.C.S.	11, Nelson St., Liverpool.
KEETLEY, C. R. B., F.R.C.S. ...	56, Grosvenor St., London, W.
LITTLE, E. M, F.R.C.S. Eng. ...	40, Seymour St., Portman Square, London, W.
LLOYD, J. JORDAN, F.R.C.S. Eng. ...	Broad St., Birmingham.
MORGAN, D., M.B., C.M.	40, Nelson St., Liverpool.
MOXEY, V., M.R.C.S. Eng.	103, Fortess Road, Camden Town, London, N.W.
MURRAY, R. W., F.R.C.S. Eng. ...	15, Rodney St., Liverpool.
NEWBOLT, G. P., F.R.C.S. Eng. ...	42, Catherine St., Liverpool.
OPENSHAW, T. H., F.R.C.S. Eng. ...	16, Wimpole St., Cavendish Square, London, W.
POWER, D'ARCY, F.R.C.S. Eng. ...	10A, Chandos St., Cavendish Square, London, W.
RAWDON, H. G., M.D., F.R.C.S. ...	42, Rodney St., Liverpool.
REEVES, H. A., F.R.C.S.	7, Grosvenor St., London, W.
SMITH, NOBLE, F.R.C.S.	24, Queen Anne St., Cavendish Square, London, W.
SUNDERLAND, O., M.R C.S., L.R.C.P.	Bexley Heath, Kent.
SUNDERLAND, S., M.D. Brux., M.R.C.S. Eng. ...	35, Bruton St., Bond St., London, W.
THOMAS, W. THELWALL, F.R.C.S. Eng.	75, Rodney St., Liverpool.
THOMAS, W., F.R.C S.	Newhall St., Birmingham.
TUBBY, A. H., M.S., F.R.C.S, etc.	25, Weymouth St., Portland Place, London, W.
WALSHAM, W. J., F.R.C.S. Eng. ...	27, Weymouth St., Portland Place, London, W.
WARDEN, C., M.D., F.R.C.S. ...	9, Newhall St., Birmingham.
WILLIAMS, G. C., M.R.C.S.	9, Warwick Mansions, Warwick Court, Gray's Inn, London, W.

PRELIMINARY MEETING.

IT having been felt for some years by Surgeons interested in Orthopædic practice that the opportunities afforded for meeting together and exchanging opinions on subjects associated with this important branch of Surgical practice were inadequate, an informal meeting was held during the Annual Meeting of the British Medical Association at University College, Bristol, on August 3rd, 1894, at which were present Messrs. Ewens, Robert Jones, Murray, Noble Smith, D'Arcy Power, Freer and Keetley.

Mr. NOBLE SMITH was voted to the Chair.

The subject was discussed at some length, and it was moved by the CHAIRMAN, seconded by Mr. R. JONES, and carried—

> "That a Society be formed to be called the BRITISH ORTHOPÆDIC SOCIETY."

Proposed by Mr. MURRAY, seconded by Mr. R. JONES, and carried—

> "That the gentlemen present constitute a provisional Committee."

Proposed by the CHAIRMAN, seconded by Mr. D'ARCY POWER, and carried—

> "That Mr. Luke Freer undertake the duties of Honorary Secretary *(pro tem.)*."

It was further resolved that the first Meeting of the Society be called not earlier than the middle of October.

Letters were read from Messrs. Muirhead Little, Tubby, Reeves, Warden, Baker, and Brodhurst, expressing their adherence to the proposed Society.

The Meeting concluded with a vote of thanks to the Chairman.

TRANSACTIONS
OF THE
BRITISH ORTHOPÆDIC SOCIETY.

FIRST GENERAL MEETING.

Held at the HOLBORN RESTAURANT, LONDON, W.C.,
November 3rd, 1894.

This meeting was called for the purpose of discussing and passing resolutions for the constitution of the Society, electing a Council, and other formal business. Present—Mr. Noble Smith (in the Chair), Messrs. Keetley, Reeves, Walsham, Brodhurst, D'Arcy Power, Sunderland, Percy Dunn, Holland, Robert Jones, Muirhead Little, A. H. Tubby, and Luke Freer (Provisional Honorary Secretary).

Mr. LUKE FREER read the notice convening the meeting, also letters from Messrs. Bidwell, Warden, Murray, Vincent Jackson, Jordan Lloyd, and Grattan. The names of the following gentlemen were also given as expressing themselves favourable to the Society—Messrs. William Thomas, Ewens, Barwell, H. F. Baker, Thelwall Thomas, Newbolt, and Davey.

Proposed by The CHAIRMAN, seconded by Mr. KEETLEY, and carried—"That the following members be elected *en bloc*." Messrs. Keetley, D'Arcy Power, Noble Smith, Luke Freer, Sunderland, Brodhurst, Reeves, Walsham, Tubby, Holland, Robert Jones, Vincent Jackson, Grattan, William Thomas, Warden, Murray, Thelwall Thomas, Ewens, Muirhead Little, and Bidwell.

The Rules for the government of the Society were discussed at some length, and eventually a basis was formed on which they should be framed, after which it was resolved to leave the details to a Council to be then elected, the draft rules to be submitted at the next Ordinary Meeting of the Society.

Proposed by Mr. ROBT. JONES, seconded by Mr. WALSHAM, and carried—"That Mr. Keetley be elected Honorary Treasurer."

Proposed by The CHAIRMAN, seconded by Mr. ROBERT JONES, and carried—"That Mr. Luke Freer be elected Provincial Honorary Secretary."

Proposed by The CHAIRMAN, seconded by Mr. WALSHAM, and carried—"That Mr. A. H. Tubby be elected Town Honorary Secretary."

The following members were elected members of the Council: Messrs. Noble Smith, Muirhead Little, D'Arcy Power, Walsham, Robert Jones, Grattan, Holland, Reeves, Sunderland, and Ewens.

SECOND GENERAL MEETING.

Held at the ROYAL MEDICAL AND CHIRURGICAL SOCIETY'S ROOMS, HANOVER SQUARE, January 31st, 1895, at 8 p.m.

Mr. EWENS, of Bristol, was voted to the chair, seventeen other members being present.

The CHAIRMAN made a short introductory speech, in which he spoke of the special honour conferred on him by being asked to take the chair on that occasion. His only claims were that he had the privilege of being Surgeon to the Children's Hospital, Bristol, in which city this Society had its birthplace. He also felt that this branch of Surgery had very special reference to diseases peculiar to children. He was glad to say that through his efforts and those of his colleagues the section for "Diseases of Children" in connection with the Annual Meetings of the British Medical Association had escaped extinction. A very strong effort was made at the last Annual Meeting to suppress this section, but they felt that it was a great pity that Bristol, which contains the second largest provincial Children's Hospital in the kingdom, should be selected as the place where the section should receive its death-blow. He and his colleagues fought the battle with the Council, and the result was the most successful sectional meeting that had been held, and he trusted that they had by vigorous action rendered it impossible for the question to be raised again for many years with any chance of success.

Tea and coffee were provided, and smoking was allowed after the exhibition of living cases.

The draft Rules submitted by the Council were ratified.

The following were then balloted for and duly elected:—Messrs. Arthur F. Blagg, M.R.C.S., L.R.C.P., West Mall, Clifton, Bristol; G. Chisholm Williams, M.R.C.S., L.R.C.P., 89, Wickham Road, Brockley; T. H. Openshaw, M.S., F.R.C.S., 15, Wimpole Street, W.; J. Jordan Lloyd, F.R.C.S., Broad Street, Birmingham; J. Jackson Clarke, M.B., F.R.C.S., 9, Old Cavendish St., W.

INVETERATE TALIPES EQUINO-VARUS,

TREATED BY REMOVAL OF WEDGE OF BONE FROM THE ASTRAGALUS AND OS CALCIS.

By E. MUIRHEAD LITTLE, F.R.C.S., Eng.

Mr. Muirhead Little presented a case of Inveterate Talipes Equino-Varus treated by removal of a wedge of bone from the astragalus and os calcis. J. T., aged 18, was seen in November, 1893, suffering from double congenital club-foot; the feet were moderately inverted and rotated; the plantar arches exaggerated and a marked degree of equinus was present, the heels being fully one inch from the ground.

Fig. 1.

Fig. 2.

There was no history of deformity in the family of either parent. The patient had nine brothers and sisters, four of whom were born with talipes varus. During these five pregnancies the mother suffered from acute lancinating pain on the left side of the abdomen for the last three months before delivery.

The patient had been operated on several times already. Early in December, 1893, the plantar fasciæ in both feet were divided and Scarpa's shoes applied. By these means and the use of the wrench, and by repeated division of tense structures in the soles, the feet were brought into a position of simple

equinus. The tendines Achillis were then divided and a prolonged effort made to overcome the equinus by manipulations and instruments. After two months' treatment, Mr. Little became convinced that the obstruction to flexion of the ankle-joint lay in malformation of the bones. On April 10th, 1894, the left ankle-joint was exposed by a longitudinal incision on its antero external aspect. It was then seen that the whole shape of the joint was at fault. Mr. Little therefore determined to perform the operation described by Bradford, of Boston, Mass. The incision was prolonged downwards, and with a chisel the whole of the neck of the astragalus and a wedge-shaped piece, involving the whole thickness of the os calcis, were removed (Fig. 4). The base of the wedge looked

Fig. 3.

Fig. 4

outwards and upwards. The wound remained aseptic throughout, and was firmly healed by the middle of July. On Oct. 3rd, the right foot was operated on in a similar manner, and the wound had completely healed by the middle of November. A light steel support to the knees was ordered.

Fig. 5.

Fig. 6.

[illegible]

[illegible] Tarsectomy [illegible]

[illegible] tarsectomy [illegible] the [illegible] the [illegible] the [illegible] successful as [illegible] tarsectomy is [illegible]

[illegible] upon his case [illegible] might have been achieved [illegible] the proposal [illegible] case of congenital varus [illegible] immediately after birth.

[illegible] had done a good number of tarsectomies [illegible] undertaken one without trying [illegible] place by tenotomies and orthopaedic [illegible] In the place of tarsectomy he had of late done [illegible] operation with encouraging results.

Mr. [illegible] congratulated Mr. Little on the results of his [illegible] on the fact that it was only the second in [illegible] in which tarsectomy was necessary; he was con[illegible] the operation was far too generally practised, and he [illegible] would be a great advantage if cases of tarsectomy and tenotomy could be presented together so that members [illegible] compare the results of the two methods.

Mr. EWENS spoke of three cases of tarsectomy which he had brought forward at the Bristol Meeting, and he now showed photographs of those and other cases.

Mr. LITTLE, in his reply said, that the reason he preferred the operation, which was done in his case, was that it interfered with hardly any joints, and therefore damaged the foot far less than an ordinary tarsectomy, and there was much less loss of spring in the foot. This case was only the second operation in which he had ever removed bone from a club-foot. It was just one of those cases where movement was limited by a bony block. It was obvious that the whole shape of the joint was abnormal, and that nothing could be done except removal of the whole of the astragalus or of the neck alone, and he adopted the latter expedient.

A CASE OF CONTRACTED ELBOW, WRIST, AND FINGERS,

DUE TO PRESSURE ON THE MEDIAN NERVE BY SCAR TISSUE. NERVE FREED BY OPERATION, SUBCUTANEOUS SECTION OF ALL THE FLEXOR TENDONS AT THE WRIST, WITH COMPLETE RESTORATION OF THE FUNCTIONS OF THE HAND.

BY A. H. TUBBY, M.S. LOND., F.R.C.S. ENG.

Mr. TUBBY presented a case of contracted elbow, wrist, and fingers, due to pressure on the median nerve by scar tissue. The nerve was freed by operation, and the flexor tendons of the wrist were subcutaneously divided, with complete restoration of the functions of the hand. "Edith B., aged 4 years, was seen by him at the National Orthopædic Hospital on October 20th, 1893. A year previously she received a blow on the anterior part of the forearm, which caused fracture of the coronoid process of the ulna, followed by suppuration and contraction of the hand and fore-arm. When seen by Mr. Tubby the right elbow was partially flexed, the fore-arm pronated, and the wrist flexed; the thumb and first and second fingers were fully bent into the palm, and the third and fourth fingers less so. The latter fingers could be passively moved through an angle of about 20 degrees. There was some loss of sensation over the outer part of the palm of the hand and on the palmar aspect of the thumb, first, and second fingers. About one inch below the bend of the elbow anteriorly, a depressed scar half an inch in diameter was seen." Judging from the appearances, it was thought that the median nerve

was pressed upon either by callus or scar tissue just after its passage through the two heads of the pronator radii teres.

Treatment.—For a month friction, douching, and galvanism were tried, but there was no improvement; so the median nerve was exposed at the bend of the elbow and traced downwards until the lesion was found. This was situated two and a half inches above the wrist, where the nerve entered a mass of dense scar tissue. In tracing the nerve out, the flexor carpi radialis was divided. The nerve was freed carefully from the scar tissue, and all of the latter removed. The wound healed by primary union. Two months afterwards extension and supination of the elbow were more extensive, but the movements at the wrist and fingers were not very much improved. Mr. Tubby therefore decided to divide all the flexor tendons of the wrist subcutaneously. This was done, and the wrist and fingers placed after the operation in the fully flexed position. Ten weeks afterwards gentle extension of the fingers and thumb was begun, and gradually increased till the movements were complete. The child then went out of the hospital wearing a plaster of Paris gauntlet, which kept the wrist flexed but left the thumb and fingers free.

Result.—A year afterwards, the movements of the right fore-arm and hand were completely restored. The patient could use a knife or spoon well with the right hand, write on a slate, and pick up small objects, such as a pin, from the table.

The points of interest in this case are, firstly, the distance of the nerve-lesion from the superficial scar, about two to three inches. (This was shown at the operation to be due to tracking of pus in the fore-arm towards the hand, and its pocketing around the nerve.) Secondly, the extensive dissection of the fore-arm involved, and the complete and rapid healing in ten days. Thirdly, the division of all the flexor tendons at the wrist with complete restoration of active movement, thereby showing that clean subcutaneous division of these tendons, with gradual after-movement, is a completely feasible measure, provided that care be taken to avoid premature stretching of the uniting material of the tendons.

Mr. KEETLEY congratulated Mr. Tubby on his good fortune. The speaker had been accustomed to see such bad results from traumatic division that he never had the courage to divide any of the tendons of the wrist for orthopædic purposes. Further he had noticed that in clearing a nerve away

you may get a good result for a few months followed by a bad one, because the cicatrix has a tendency to return. He should be glad to know if Mr. Tubby could suggest why his case of pressure on the median nerve turned out so well.

Mr. D'ARCY POWER asked Mr. Keetley whether the unsatisfactory results he had seen after the rupture of tendons had occurred in adults or in children? Mr. Power's own experience led him to believe that the reparative power in children was so great as to enable them to repair even severe injuries to their tendons as readily as they repaired severe injuries in other parts of their bodies. It was probably otherwise in adults.

Mr. KEETLEY said naturally most of the instances he had seen had been among adults.

Mr. REEVES alluded to two similar cases which had got well after breaking down the adhesions under chloroform.

Mr. NOBLE SMITH thought this case most interesting. It had given rise to some new points concerning division of tendons.

Mr. BRODHURST alluded to some cases of contraction of the hand in which he had divided the tendons subcutaneously at the wrist with good results.

Mr. WALSHAM said he had had one case of the kind in which he successfully divided the flexor tendons. It is a nice point why, if the tendons are cut subcutaneously, we get union, whereas if cut with a piece of glass they so often fail to unite, although union of the skin wound by the first intention is secured.

Mr. FREER wished to ask Mr. Tubby if the fingers were absolutely bent down and fixed into the palm.

Mr. TUBBY, in reply to Mr. Keetley, said he took care to dissect out and clear away the cicatrix as completely as possible, leaving the nerve untouched. In answer to Mr. Freer's question, the contraction of the thumb and first and second fingers was extreme, and their tips could not be moved half an inch under an anæsthetic. Mr. Tubby thought the success of his case was due to the experience he gained in operating on the tendines Achillis of rabbits. The results are published in the Guy's Hospital Reports, 1892. It was found that the uniting material of tendons will stretch for fourteen months after operation. So in this case the hand was kept in its faulty position for ten weeks, and the wrist was kept flexed for a year afterwards so that the extensors should not influence the weak uniting material of the flexors.

A CASE OF CONGENITAL DEFICIENCY OF LEFT TIBIA AND RIGHT FIBULA.

By E. LUKE FREER, M.R.C.S. Eng.

Mr. Luke Freer brought forward a specimen; the amputated left leg from a case of deficiency of the left tibia. The details of the case were as follows:—Master N. W., aged 7½, was brought to him in July last. There were no deformities in other members of the family, but the mother had a fall when *enceinte*. The left tibia was absent, and the fibula, six inches in length only, lay obliquely across the knee below the condyles. The foot was attached to the external malleolus and turned up against the inner side of the thigh (Fig. 7). There were only four toes on it. The right tibia was normal, but the fibula was rudimentary, and the foot was in a condition of extreme valgus and had only four toes, as on the left foot, situated at the lower part of the leg, only two inches in length. In August

Fig. 7.

1894 an amputation of the left knee-joint was done, the popliteal artery being found to be only about the size of a crow-quill. At the same time the peronei tendons of the right foot were divided and the foot could then be duly inverted. It was then placed in a Scarpa shoe. In September the amputation wound had healed and the Scarpa shoe was left off from the right foot, an ingenious instrument invented by the

father being substituted which gave excellent results. A Thomas' knee-splint was applied to the stump of the left limb in November and the boy walked nimbly up to his nursery at

Fig. 8.

once (Fig. 8). At this time the right foot is in a very good position and the boy runs about anywhere, and rides a tricycle.

Mr. REEVES asked if Mr. Freer thought that the angle of the bone and the dimple in the skin in his case were due to intra uterine fracture.

As throwing light upon this point, Mr. Tubby mentioned the following case which had come under his observation at the National Orthopædic Hospital. A child was brought to him with congenital deficiency of the left fibula, marked anterior curvature of the tibia with dimpling of the skin over the most prominent part. The tibia at the time of birth was quite firm, but eighteen months afterwards he was surprised to find a false joint had formed in the convexity of the tibia.

Mr. FREER, in reply said, that the right tibia was quite perfect. One point he omitted was with regard to Thomas' knee splint. He was very pleased with the use of it as an artificial limb in the case of the little child after the operation, until he was old enough to have a good artificial leg. He has had a "Beaufort" leg made, but uses it very little, preferring the knee-splint.

THE CAUSES OF ROTATION IN SCOLIOSIS.

By C. R. B. KEETLEY, F.R.C.S., Eng.

"It is acknowledged by all, except a few pathologists who would seem never to enter a museum, that the peculiar shape of the scoliotic spine is almost entirely the sum of changes in its component vertebræ—*i.e.*, it is only in a small degree the result of changes in the ligaments and articulations. What are the changes in an individual vertebra? They are greatest in a certain very small number, chiefly those at or near the centre of each curve. They have been many times described; for example, by Bouvier, by Nicoladoni, and by Lorenz, the last two authorities having in their minds during the description each a special theory to account for the 'rotation.' Lorenz's description is very minute.

"If we look at the front of a vertebra chosen from the centre of a curve with convexity to the right, we should expect to find the outline of its body wedge-shaped, with the apex towards the concavity of the spinal curve, and more or less marked, with a horizontal groove on the left side, as if the force of growth, having been checked perpendicularly, had spread laterally, so as to form two lips. If the same vertebra be viewed from behind it will probably be found that, although not strictly symmetrical, especially as regards the articular processes, the wedge-shape is not at all pronounced, and may even be not discoverable except by measurement. If, now, a third view be taken of the vertebra—viz., from above—it will, if at all a typical case, be seen to be strangely 'slewed,' as it were, in such a manner that the posterior segment of the vertebra, including the pedicles, the transverse processes, the laminæ, and the spinous processes, appear to have struggled to retain their normal relations and positions in the particular human frame to which they belong, while the body of the vertebra has been equally determined to deviate to the right. 'Struggle' is, in one respect at least, a good word, because it suggests a certain amount of confusion, such as might produce the minor varieties in the pathological anatomy of such bones as I am describing. But the chief peculiarities are both orderly and almost uniform.

"If it be granted that the prime cause of scoliosis is, in young children, ordinary rickets, and in older ones and in

youths 'rachitis adolescentium,' it cannot be forgotten that in rickets it is at the so-called 'epiphysial' cartilages that the greatest abnormality of growth, leading to the major part of each rachitic deformity, takes place. Now the epiphysial cartilages of the vertebral body are placed above and below the main bony masses, but the cartilages of growth of the transverse processes and the spinous process, and in fact of the whole segment of the vertebra posterior to its body, are placed horizontally with regard to one another. There is also the equivalent of an epiphysial cartilage in each vertebral body near the root of the pedicle. Hence rachitic deformity would have a much greater tendency to produce lateral inclination in a vertebral body than in the more posterior constituents of the vertebra. Further, the external projection of the transverse and articular processes gives them an increased mechanical power, like that of buttresses and of cross-trees, to check a tendency to lateral inclination. On the other hand, the comparative thinness from side to side of the pedicles, arches, and spinous processes offers diminished resistance to horizontal 'slewing' of those parts. *Therefore, the fact that the layers of cartilage of growth or epiphysial cartilages above and below each vertebral body do not extend backwards to the posterior parts of the vertebra is the prime cause of torsion*, and the arrangements of the cartilage of growth of the pedicles, transverse and spinous processes together with their shape, greatly contribute to the production of torsion by facilitating 'slewing' of these parts in a horizontal direction. The only explanation of torsion which I have been able to find at all analogous to that just given is Lorenz's. He finds the cause of torsion in the existence of the cartilage of growth in each side of the posterior part of the vertebral body near the base of the corresponding pedicle. That this is a most important factor I grant, but I think it causes, not the torsion, but the great degree to which torsion may reach. It is a specially important fact that near the junction of the anterior with the posterior segment of each vertebra there is a cartilage of growth which is, like others of its kind, no doubt specially sensitive to rachitic influences. But I maintain that unless the vertebral bodies had their principal cartilages of growth placed above and below them, they would have no more tendency to lateral curvature than the rest of the vertebræ, and therefore the action of the pedicle cartilage would not come into play."

DISCUSSION.

Mr. LITTLE said that his experiments went to show that, in a normal spine, rotation does not accompany flexion. As far as his experience went, in the majority of cases of scoliosis, there was very little sign of rickets in other parts, and he could not accept the view that rickets was the cause, unless absolutely localised in the spine. He had been inclined to think that the rotation and deformity of the vertebræ were secondary in abnormal bones to muscular action.

Mr. NOBLE SMITH held that rickets is not a common cause of scoliosis. He himself held that the cause of rotation was that originated by Roger Harrison and described by Dr. Judson. In discussing this point, he remarked that in curvature from pleurisy or lung trouble rotation does occur, although the contrary has been stated.

Mr. BRODHURST referred to H. Meyer, who was the first to recognise the importance of the anterior common ligament in maintaining the proper position of the bodies of the vertebræ, and he stated that Meyer also preceded Judson in the supposition that spinal curvature was produced by pressure from above downwards.

Mr. KEETLEY, in reply, said the greater the age of the patient the more rickets tended to localise itself in one set of bones; hence, a scoliosis could easily be due to rachitic adolescentium without being accompanied by knock-knees, etc. Shaw had misled us, or had perhaps been misled himself by prejudice formed in attacking James Wilson's statements. Nicoladoni's views had practically no bearing on the point under discussion. The earliest changes in scoliosis were surely so insidious as to evade any check from ligaments or muscles; moreover, they were in the bones themselves, and not in the intervening joints. It was true, perhaps, that muscles supported the dorsal and even lumbar spines and laminæ more than the column of bodies; but this did not apply to the sacrum, which was also affected by torsion. As to paralytic curves, the most marked had the concavities on the paralysed side, and were probably the result of paralytic trophic disturbances. They were certainly not due to antagonistic contraction.

A NEW FORM OF SHOULDER BRACE.

THE ACTION OF SUCH APPLIANCES, AND THE RIGHT METHOD OF FITTING THEM.

By C. B. KEETLEY, F.R.C.S.

Mr. KEETLEY, in bringing this instrument before the notice of the Society, stated that the majority of cases of lateral curvature are complicated with dorsal kyphosis, and in some the latter deformity—"round shoulders," as it is commonly called—is the principal defect. The more the shoulders are carried forwards the greater is the leverage with which the weight of the arms tends to increase the curvature, as well as to interfere with the full expansion of the chest in respiration. When it is remembered that diseases which interfere with respiration—for example, bronchitis and asthma—are themselves enough to cause curvature of the dorsal spine, or round back, it will be seen that there is a double reason for keeping the shoulders well back, namely: (1) to prevent the weight of the upper extremities from acting to increase the curve of the arched dorsal spine, and (2) to permit the chest to expand and straighten out the spine. Furthermore, freedom of expansion of the chest benefits the general health, and both carriage and appearance are improved by preventing the shoulders from slouching forward.

It has been objected to shoulder braces of every kind that they weaken the muscles whose duty it is to hold the shoulders back. It is not the duty of muscles to perform any such wearisome task as would be involved in steadily, hour after hour, holding back shoulders dragged forward by the weight of upper extremities acting with the leverage lent by a kyphotic dorsal spine. The effort would, in a severe case, be greater than that required to hold the arms out horizontally hour after hour.

An essential requirement for good shoulder braces is a firm basis such as a plaster-of-paris or a poroplastic jacket fitted to the trunk as low as the hips. Another is that the braces should not pull or press downwards at all, because that action, as Sayre points out, tends, by bringing the two ends of the spinal column nearer together, to increase spinal curves.

I am recommending anterior crutches or braces only. The ordinary axillary crutch, inferior in position, is only endured by the patient when it does not act. When it does act it is well known to paralyse the brachial plexus and obstruct the circulation in the arm.

A third requirement of the anterior crutch or shoulder brace is that its support should be elastic, and a fourth that the degree of its pressure should be adjustable by the patient, according to what experience shows can be endured with comfort.

These requirements are fulfilled by the appliance here described. A large number have been made for me by Messrs. Maw, Son, and Thompson. Many of my patients have worn them for several years. At first the crutches were fitted to Sayre's jacket of plaster-of-paris. In the last three years, except when the deformity was severe, poroplastic felt has been used. The details have been modified experimentally in various ways. The appliance here described may be relied on.

A jacket of poroplastic felt or of plaster-of-paris is made, and its fit perfected.

The patient, standing erect with the jacket on, a measurement is taken from the lower border of the clavicle straight down to a clear inch above the waist of the jacket. The position where the upper edge of the jacket crosses this line should be noted. The instrument maker then fits on the pair of crutches illustrated. Above the jacket they are

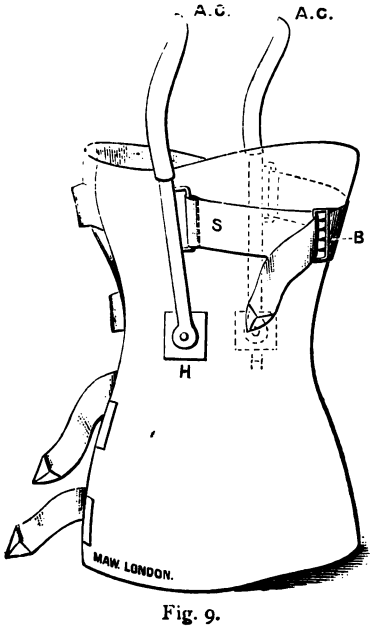

Fig. 9.

covered with chamois leather. Their lower extremities move on hinges attached to plates riveted to the jacket. In the case of plaster jackets there should be inner as well as outer plates with all or most of the plaster layers gripped tightly between the two. This point must be insisted on. The two crutches are united behind the back of the jacket by the elastic webbing strap **S**, which can be tightened or loosened by the buckle **B**. The hinge plates **H H** should be set well back, rather behind the mid-axillary line (Fig. 9).

The final fitting must be done by the surgeon himself with a pair of simple wrenches of any description. The leather-covered parts have to be bent in until they adjust themselves along the inner border of the deltoids. Their flat surfaces must look backwards, their points turn forwards a little, as in the sketch.

The combination of felt jacket with these crutches has proved beneficial to the anæmia from which many round-shouldered young girls suffer. It effectually prevents tight lacing, it improves respiration, and inspirits the patient by giving her a feeling of health and well-being to which she has not been accustomed. But I must emphasise the importance of making both jacket and crutches fit properly. Experience teaches every inventor of surgical appliances that if too much is left to the instrument maker imperfect fit results in failure or discomfort, and then modifications are introduced inconsistent with the spirit of the original invention.

Several specimens of new orthopædic instruments made by Mr. Ernst were also on view.

At the invitation of Mr. Robert Jones, it was resolved to hold the next Ordinary General Meeting at Liverpool in May.

The meeting concluded with a vote of thanks to the Council of the Medical and Chirurgical Society for the use of their Rooms.

THIRD ORDINARY GENERAL MEETING.

Held at LIVERPOOL, on May 24th, 1895.

Present: Messrs. Robert Jones, Holland, Murray, Thelwall Thomas, the Hon. Secretaries (Messrs. E. Luke Freer and A. H. Tubby), and several visitors.

After lunching together at the Adelphi Hotel, the members visited the New Royal Infirmary, the Children's Infirmary, and the Southern Hospital, at the invitation of the several staffs; they were then entertained at dinner by Mr. Robert Jones, after which they adjourned to the Medical Institution, where the Ordinary Meeting was held.

A large number of living cases were exhibited, representing torti collis, talipes treated by tarsectomy, wrenching, tenotomy, etc., also numerous cases of knee, hip, and other joint diseases; several casts and stereoscopic slides were on view, the latter shown by Messrs. Robert Jones and Thelwall Thomas, being most instructive as shewing the advantage of stereoscopic photography in the demonstration of orthopædic cases.

Mr. Robert Jones was voted to the chair. Several candidates were balloted for and elected.

ROTATION INWARDS OF THE LOWER ENDS OF THE TIBIA AND FIBULA IN TALIPES EQUINO-VARUS.

Mr. TUBBY (London) read notes of a case of talipes equino-varus, drawing attention to the rotation inwards of the lower end of the tibia and fibula, which complicated these cases (Fig. 10). He had performed osteotomy of the lower end of the tibia, the limb being afterwards put up in plaster, with a satisfactory result.

Mr. ROBERT JONES agreed with Mr. Tubby that the rotation was due to an alteration in the shape of the tibia and fibula, and had for years successfully treated it by osteoclasis above the ankle joint, in this way, by eversion, at once corrected the deformity. A comparison of the position of the patella with the great toe was evidence that the deformity was below the knee.

Mr. MURRAY (Liverpool) considered that the fault lay not in the tibia, but above the knee.

Mr. LUKE FREER (Birmingham) held that the inversion was general, the knee and hip being equally involved and secondary in origin to the foot inversion; he had always met the difficulty by passive manipulations and occasionally instrumental aid, by which the knee and hip were rotated outwards, as it were, simultaneously with the daily after-treatment of the talipes itself.

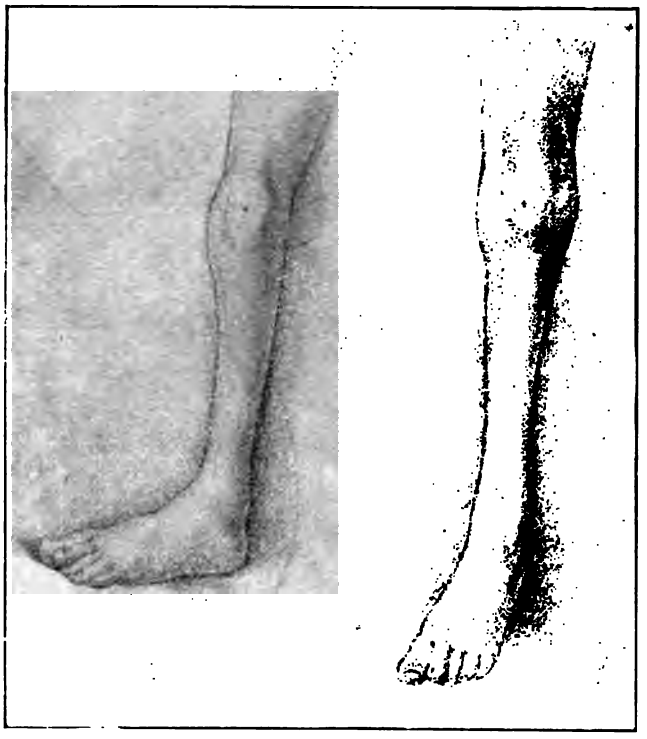

Fig. 10.

CASE OF RACHITIS ADOLESCENTIUM.

Mr. LUKE FREER showed photographs of a case, originally one of extreme rachitic genua valga (Fig. 11); the girl had worn instruments for four years with little benefit, and when eight years of age he had performed a double 'MacEwen' with the best results, continuing retentive apparatus, however, for two years after to prevent relapse (Fig. 12). A week ago she had turned up again after a lapse of eight years with most pronounced *genua vara* evidently due to rachitis adolescentium (Fig. 13). He emphasized the necessity of mechanical control after osteotomy, and the fallacy of very early operation.

Mr. MURRAY thought the case would be best treated by another osteotomy.

Fig. 11. Fig. 12 Fig. 13.

Mr. TUBBY thought that the consideration of rickets of adolescence would form a good subject for discussion at an early meeting of the Society.

DISCUSSION ON THE TREATMENT OF INTRACTABLE TALIPES EQUINO-VARUS.

Mr. ROBERT JONES opened the discussion. He maintained that it was always an avoidable condition, and that the relapses so often alluded to were generally due to carelessness on the part of the patients' friends, and sometimes on the part of the practitioner. The relapses frequently occurred because the Surgeon did not recognise their causes; these were (*a*) insufficient correction of deformity, (*b*) superincumbent body weight on the outer side of the tarsus, (*c*) slack and lengthened state of muscles opposed to the deformity. Frequently surgeons were content to merely twist the foot until they were able to get it comfortably into the straight position, and yet so soon as the little patient put his limb to the ground, one could see that the flexor muscles of the foot had not recovered their power, the result being that the whole body weight fell on the outer side of the tarsus. The foot is not cured until the patient can voluntarily place it in the position of valgus, and he should not be allowed to walk until the foot is so far recovered that each step he takes tends to improve the position of the foot: in other words, until the act of walking becomes a beneficial factor in the correction of the deformity.

It was impossible to lay too much stress upon the influence

of the over-stretched muscles on the convex side of the deformity in the maintenance of deformity, or its recurrence. In proof of this, Mr. Jones instanced his treatment in infantile paralysis where contractions had existed for some years, and their influence upon the lengthened opponent muscles. After discussing the anatomy of inveterate club-foot, Mr. Jones traversed Phelps' statement that the bony deformity in intractable cases did not by any means keep pace with the deformity of soft structures. He (Mr. Jones) maintained that it was impossible for the foot of a growing child to remain twisted without corresponding bone changes, and he drew attention to the osseous deformity in lateral curvature and in knock-knee.

In discussing the methods of treatment, including that of manual correction, subcutaneous division of deep structures and tendons, forcible wrenching, tarsoclasis, open incision, linear osteotomy, removal of astragalus or cuboid, tarsectomy, and Pirogoff's operation, he found it difficult to critisise all the methods, and he wished to insist upon a very often forgotten fact that the goal might be reached very successfully by different routes. Some surgeons, like Wolff of Berlin, were able to show extremely satisfactory results where the hand alone was used, and this in extremely intractable cases. Phelps had described uncommonly good results by means of his open incision; and Mr. Jones had personally seen some very useful feet after Lund's excision of the astragalus. That evening Mr. Murray had shown what could be done in suitable cases by well-performed tarsectomy. After describing Phelps' operation, Mr. Jones argued that it had more effect on the varus deformity than on the equinus, and the cases he had seen after the operation seemed rather deficient in the power of putting the heel to the ground. Phelps' argument for open incision seemed founded on the ground that it was indiscreet to work in the dark; but at the same time it was noticeable that he had very considerably modified the length of his incision, so that it became almost essential, by reason of the small incision now made, to introduce out of sight the tenotome for the division of some of the deep structures. Mr. Jones had performed Lund's operation on six cases and wedge-shaped tarsectomy thirteen times; but although his results were fairly satisfactory, he had discarded the operative treatment for that of forcible wrenching. He felt that the difficulty of tarsectomy lay in the fact that the foot subsequently became so firmly ankylosed and resistant that no further measures

were possible. He maintained that operations such as those described should only be done by surgeons of experience under strictly antiseptic precautions; that the foot should be over-corrected at the time of operation, and that the appliances should be worn for a considerable time afterwards. He felt certain that all cases of club-foot could be successfully treated by Thomas' wrench, and that the failures which had been reported were due to the fact that surgeons often did not learn its method of application.

Mr. Jones then described in detail the mode of twisting by means of that instrument (Figs. 14 & 15). He always divided

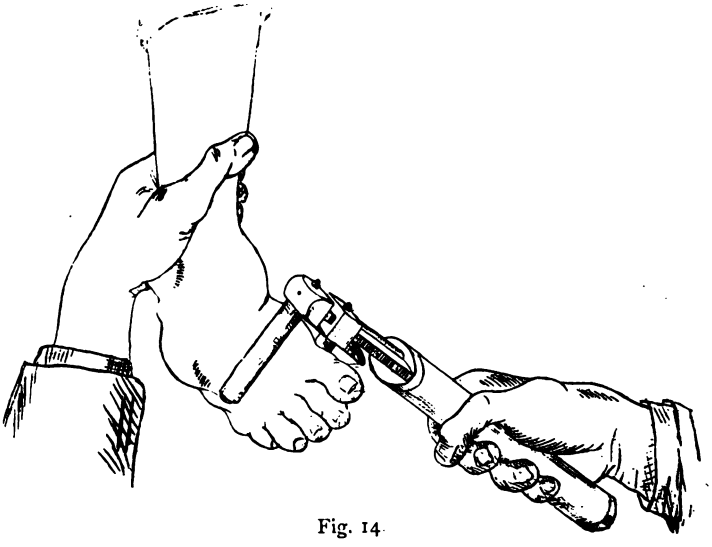

Fig. 14.

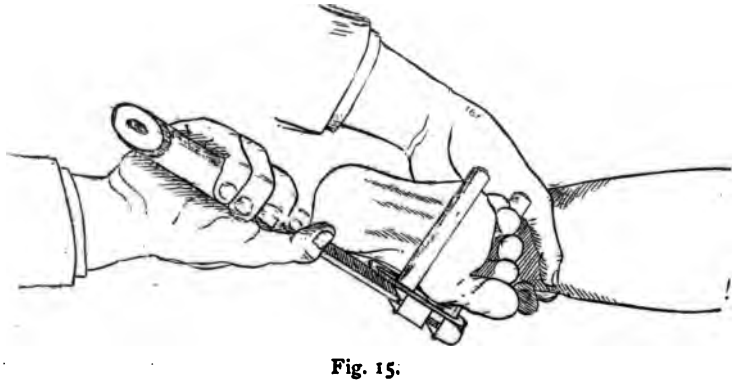

Fig. 15.

tlie tendo Achillis before proceeding to further treatment, as its contraction often had to do with the varus deformity as well as that of the equinus. He rarely found it necessary to divide any other tendons. Occasionally several wrenchings were preferable to forcing the foot into position at once. After each wrenching the foot became quite capable of being moulded into any position. In the after treatment he preferred the application of a cheap iron shoe to the plaster appliances now commonly in use, and he described the simple device of adding an iron flapper on the outer edge of the boot in order to complete the eversion of the foot during walking. The rotation inwards of the leg he corrected last of all by osteoclasm (Figs. 16, 17, & 18). This internal rotation could always be avoided if one began treatment early by twisting, in their long axes, the tibia and fibula outwards, grasping the lower end with the right hand and the upper end with the left (Figs. 19 and 20). The cases he had shown that evening, all of them of a very extreme character, were sufficient proof of the efficacy of this method of treatment, a method which, while leaving intact and training to a proper shape the tarsal bones, resulted in a

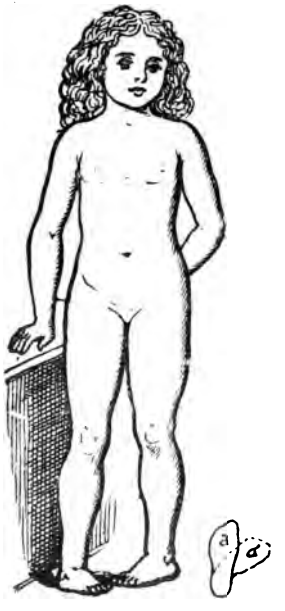

Fig. 16.

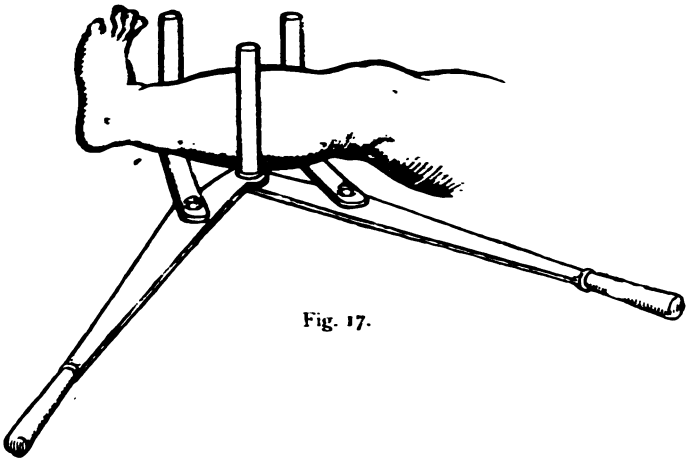

Fig. 17.

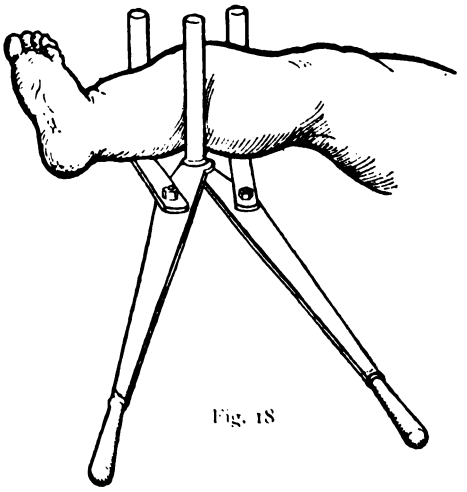

Fig. 18

pliable and useful foot (Figs. 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33). There was very little pain attached to the method, treatment had only to be continued for a few months, and there was absolutely no risk involved. This could not be said of the cutting operations, with the inevitable percentage of mortality. Surgeons were too accustomed to be shown only the successful cases of tarsectomy, but in private and hospital practice he had frequently come across some of the dire disasters.

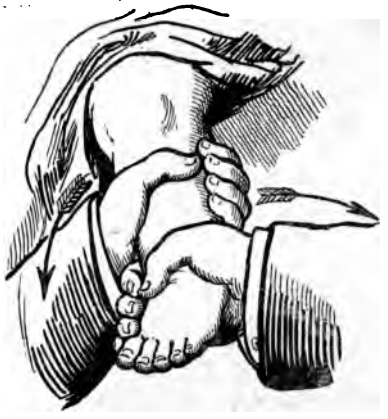

Fig. 19.

Fig. 20.

Fig. 21.
Before treatment.

Fig. 22.
After treatment.

Fig. 23.
Before treatment.
Back view.

Fig 24.
Before treatment.
Front view.

Fig 25.
After treatment.

Fig. 26.
Before treatment. Front view.

Fig. 27.
Before treatment. Back view.

Fig. 28.
After treatment, standing.

Fig. 29.
After treatment, sitting.

Fig. 30.
Before treatment. Front view.

Fig. 31.
Before treatment, back view.

Fig. 32. After treatment.

Fig. 33

Mr. TUBBY thought that in the normal state the action of the extensor and flexor muscles was not alternate and distinct, but that the muscles acted in concert : there was a wide field for observers for investigating the conditions of the equilibrium of muscles. He had not found tarsectomy necessary, but had seen some very bad results from it ; cases were sent out too early, and relapses occurred not seen by the surgeon. He considered the wrench a very satisfactory instrument in intractable cases, the ligaments in youth being elastic ; he was opposed to Phelps' operation, excessive division of vessels favor gangrene of the foot—the operation appeared very pretty on the table, and very ugly afterwards.

Mr. MURRAY said that in the treatment of congenital talipes equino-varus, all were agreed that the equinus part of the deformity should be dealt with by division of the tendo Achillis, but all were not agreed as to the treatment of the varus. He stated his objections to Phelps' operation and also to wrenching. The wrenching was painful and had to be often repeated, an important matter with poor patients from a distance. Of the several operations practised, he personally preferred the removal of a wedge-shaped piece from the outer side of the foot, irrespective of bones or joints, and was well satisfied with the results he had obtained. He had performed the operation 42 times in 34 patients. The dangers from the operation were practically nil, and much time and expense were saved, as the patients walked well without instrumental support in less than three months.

Mr. LUKE FREER was of opinion that the very few cases of intractable club-foot with which Surgeons engaged in Orthopædic practice had to deal were, as the Chairman had observed a reflection on the patient's friends, or more often on the practitioner. Severe relapsed cases treated by tenotomy and daily manipulative after-treatment would usually be well with

Fig. 34.
Before treatment.

Fig. 35.
After treatment.

Fig. 36.
Before treatment, standing.

Fig. 37.
Before treatment, sitting.

Fig. 38.
After treatment

pliable feet under three months, and he showed several photographs of cases so treated (Figs. 34, 35, 36, 37, 38); he was in favour of the wrench rather than tarsectomy in cases where the hand was not sufficient; he agreed with the use of simple retentive apparatus easily removable for manipulation. Of all the cases of tarsectomy he had seen he could not call any one really satisfactory, the best were "stumpy."

Mr. NEWBOLT (Liverpool) said that osteoclasis should be done through the tibia and fibula, not through the femur.

Mr. ROBERT JONES in reply referred to the length of time in treatment which was slight after the first wrenching; no relapse occurred if the child were not allowed to walk before

the weight was borne on the inner side of the tarsus instead of the outer. The chief advantage of his method was safety. Private patients would invariably prefer a non-cutting operation. There would be very few intractable cases of club-foot if medical men would learn how to deal with them sufficiently early.

The meeting closed with a hearty vote of thanks to the Chairman and other Liverpool members for the trouble they had taken in collecting such a large number of cases for demonstration, and for the manner in which they had carried out the arrangements for such a successful and interesting meeting, and to the Council of the Liverpool Medical Institution for the use of their rooms.

FOURTH ORDINARY GENERAL MEETING.

Held at the NATIONAL ORTHOPÆDIC HOSPITAL,
234, GREAT PORTLAND ST., LONDON, W.

July 30th, 1895, at 4 p.m.

Mr. E. MUIRHEAD LITTLE was voted to the chair, seventeen other members being present.

Messrs. Oliver Sunderland and C. E. Abbott were elected members of the Society.

LAMINECTOMY FOR COMPRESSION-PARAPLEGIA FOLLOWING POTT'S DISEASE OF THE SPINE.

Mr. NOBLE SMITH showed the case of a lady who came to him seven years ago, having for some years suffered from an acute angular curvature of the spine at the ninth dorsal vertebra, with little power of walking, the trouble having originated in the patient, while acting as an amateur nurse, lifting a very heavy patient. Under mechanical treatment her pain disappeared, and the deformity was to some extent relieved; her walking powers, however, still further diminished, although there appeared to be complete cessation of the active caries. Along with the interference with the muscular power there was some loss of sensation in certain regions. Exact localisation of the pressure was difficult, owing to the absence of complete paralysis, but, concluding that it was taking place in the neighbourhood of the old angle of projection, he decided, at the patient's urgent request, to operate; the arches of the seventh, eighth, and ninth dorsal vertebræ being removed, a reddish growth, looking like

granulations or a granular membrane, was found covering the posterior part of the cord. It extended about 1½ in. longitudinally and about ½ in. laterally, being connected more or less with the tissue between the laminæ. It turned out to be a vascular growth, and came away like a network of connective tissue, which having been removed the wound was closed. The patient made a good recovery, is now very much straighter, and has very largely regained her powers of walking. To some members of the profession it might seem that such an operation should not be done in the absence of very urgent symptoms. It had been thought that very severe pain was necessary to justify such procedure. In some of the cases previously operated on, extreme pain had been present for months before the operation was ventured on; but since then a sufficient number of cases, he thought, had been dealt with to warrant interference where there was distinct loss of power. The operation in the present case had been performed thirteen months ago, and the patient was still wearing an apparatus to steady the spine.

Mr. NOBLE SMITH showed several other specimens. The first was from the case of a poor and very neglected child, who on admission appeared likely to die at any hour, suffering from spinal caries and general tuberculosis. He assumed voluntarily the prone position in bed and would adopt no other, resting on knees and elbows. In advocating this position, Mr. Noble Smith referred to the case of a monkey which took to this position in suffering from spinal caries, from which it subsequently died. The child gradually improved under fixation, till, after two years, he was walking about and comparatively well, but owing to the great gap which must have existed in the spine, an apparatus was kept on. Death took place from tubercular meningitis. *Post-mortem*, the seven lower dorsal and upper three lumbar vertebræ were found to be almost a mass of new bone. The specimen showed that the entire bodies of three vertebræ, and a great deal of those above and below were entirely dissolved away, so that the spinal cord had been exposed for a large area, the child resting simply on the vertebral arches which might easily have given way, thus breaking the back. The case showed that such a gap, contrary to what was often held, could be filled up by new bony growth, also that a child with general tuberculosis, and who subsequently died from tubercular meningitis, yet had powers of repair as far as the bones were concerned. There were several abscesses, a lumbar and two psoas abscesses which

were treated by syringing out with solution of carbolic acid. At the present day, he thought, it was pretty well agreed that the best way of treating a chronic abscess was either to dissect it out and get rid of its lining membrane, or scrape its cavity as much as possible and turn it into an open wound. At the same time they could hardly but admit that in many of these cases of caries, such an operation was almost impossible; and even if it were done, so long as there was diseased bone coming away, the abscess could not be got rid of. A few days previously he had operated on a case of abscess at the lower part of the dorsal spine, which he opened and scraped out, but where there was found a sinus at the upper part into which a probe passed for four inches towards diseased bone. It would have been absolutely wrong to have tried to open that out. He thought he had done sufficient by scraping out the abscess and removing some small pieces of bone, passing a tube up the sinus, and so far as possible, washing out the internal part of the abscess. The internal sinus closed up in a couple of days, the lower part kept open for four or five days discharging a little bone. It was now all healed up and the child's condition much improved. That was a typical case of the treatment he had adopted for those abscesses.

CHRONIC HYPERTROPHY OF FINGERS.

Mr. ROBERT JONES showed a specimen of Chronic Hypertrophy of the fingers from a child of eighteen months. He

Fig. 39.

had seen on one or two occasions a somewhat similar condition of the toes, and when he casually first saw the case he thought it likely to be one of chronic lymphangioma. There was nothing in the history of very great interest, except that when the child was born there was some doubt as to whether the index finger and thumb were a little larger than those of the other hand, though not so large as to be apparent for the first fortnight or three weeks. Later on, growth seemed to take place very rapidly until at the age of eighteen months the child, although able to move all the fingers and the thumb, could do so only slightly; and apparently from clinical evidences the bones seemed to be hypertrophied as well as the soft tissues round about. On admission to hospital at Liverpool amputation was performed. He was much surprised to notice that to all naked-eye appearance there was nothing but fat. Bradford and Lovett mention cases in their work as being rare, in which, as they put it, the interstitial tissue generally was hypertrophied. There was also a case related in which there was a large lymphangioma,—whether verified by microscopic examination or not, he was not sure. His case, however, had been verified, and he placed two slides at the disposal of the Society which would show there was really nothing except an increased amount of fatty tissue. Fat seemed to invade the muscular tissue everywhere, and there seemed to be no interference with the lymphatics. This specimen, with the cast, is preserved in the Museum of St. Bartholomew's Hospital. It was shown at the Pathological Society of London (see Path. Soc. Trans., vol. 47, 1896) by Mr. D'Arcy Power for Mr. Jones.

FRACTURE OF THE GREAT TROCHANTER

WITH LENGTHENING OF THE FEMUR.

Mr. ROBERT JONES showed some other cases, which he said should perhaps scarcely have been brought before that Society except by way of asserting their right to widen the domain of their specialty. They were photographs of two cases of a peculiar fracture of which he had seen three instances. The first patient was a man who fell on his hip from a considerable height and was removed to a large infirmary, where, after considerable discussion as to diagnosis, it was concluded that the case was one of dislocation into the pelvis. Coming afterwards under his own care, he made up his mind it was not a case of dislocation, and in that opinion the surgeon who first saw the case agreed. The symptoms presented were some degree of flexion deformity, and actual lengthening of the

affected limb; but on measurement, the trochanter was found to be three inches above Nelaton's line, while the leg below the knee was the same as that on the other side, so that there was a lengthening of the femur (Figs. 40 & 41). The area of

Fig. 40.

Fig. 41.

movement of the limb was limited. It seemed therefore that the patient had suffered from a fracture through the great trochanter, the neck of the bone pushing the fragment up, and, by some interesting mechanical process, actual lengthening of the femur took place. The interest of the case was increased by his having seen two other cases within three or four years with the same symptoms. The treatment consisted in governing the flexion deformity so as to get the leg down, and the patient declared himself able to walk without discomfort or pain, while there was a considerable degree of movement in the joint. There was distinct flattening of the hip. As bearing on the diagnosis, a good deal of bossy thickening was now to be found round the trochanter, which was much wider on that side.

GENU RECURVATUM.

Mr. NEWBOLT showed photographs of this case, which had been under his care for ten days. The child was born

naturally in the head position, although, he believed, it was stated by some authors that a breech presentation was the usual rule. On examination, the knees were found to be considerably hyper-extended, so that it was difficult to make out the patellæ, and the condyles of the femur were very prominent behind, so that the angle of the knee, if he might use the expression, was behind instead of in front. The skin in front of the knee was much folded, and it was impossible, without using a good deal of force, to flex the knee at all. By forcible traction and flexion at intervals of about two days, combined with an anterior splint, the angle of which was altered every other day, the limb was got into the improved position illustrated, and by continuing the treatment, he hoped to get a fairly good condition. The case was taken early, and he anticipated no other trouble in treatment. There were no other deformities in the child.

SEVERE RELAPSED CASE OF CONGENITAL TALIPES EQUINO-VARUS,

TREATED WITHOUT TARSECTOMY.

Mr. E. LUKE FREER showed a patient, aged 7, on whom he had operated for most pronounced congenital Talipes Equino-varus. When twelve months old the tibialis posticus and tendo Achillis had been divided. When first seen on April 5th, 1894, the deformity was so severe that he had held out no hope of amelioration except by tarsectomy; the parents, however, being averse to this procedure, Mr. Freer divided the tendo Achillis, tibialis anticus, tibialis posticus, plantar fascia, and the anterior fasciculus of the deltoid ligament. Previous to this the condition of the foot was such that the astragalus was sub-luxated outwards and forwards, a large adventitious bursa or false heel over the cuboid, the dorsum of the little toe and the next touching the growth, and the edge of the great toe pointing upward (Fig. 42). Daily manipulations

Fig. 42.
Before treatment.

Fig. 43.
After treatment.

Fig. 44.
After treatment, with instrument to boot to prevent relapse.

and massage were performed and Scarpa's shoe worn, with the result that the patient returned home on July 30th, 1894, with the foot perfectly flat but still wearing an instrument to overcome the tendency to relaxation of external lateral ligament (Fig. [illegible]). The improved condition of the child had remained at the present time twelve months after the operation (Fig. 44).

Fig. 45.
Twelve months after treatment.

Mr. Freer showed photographs of the patient previous to and after the operation.

Mr. JACKSON CLARKE showed some dissected specimens. The first was an instance of spina bifida occulta, with which were associated other deformities. The laminæ of the last three lumbar and all the sacral vertebræ were wanting, and opposite the first sacral the dura mater and arachnoid were prolonged backward into a narrow tube which ended in a scar in the skin. The child was born alive and lived for twenty minutes. There was no liquor amnii.

The second was a case of double congenital dislocation of the hip, showing the disproportion between the head of the femur and the acetabulum. The deformity appeared to have been caused by the acutely flexed position of the hip joints of the fœtus in utero.

The subject from which these specimens were obtained was a full time fœtus which was born dead. The uterus of the mother contained many fibroid tumours, and the congenital dislocation was accompanied by deformities of the chest and feet, which enabled the author to replace the extremities in the position which they had occupied when in utero. When this

had been done the fœtus had the appearance shown in Fig. 46.

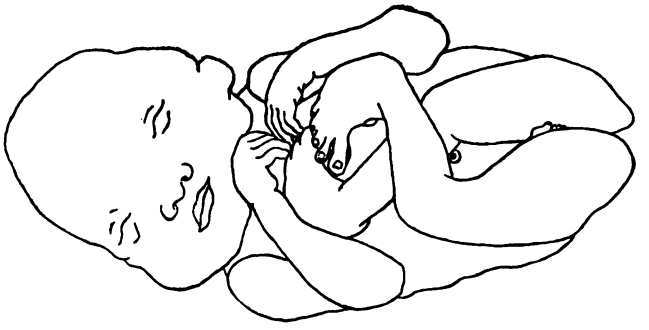

Fig. 46.

Fig. 47 shows one of the innominate bones and the acetabulum.

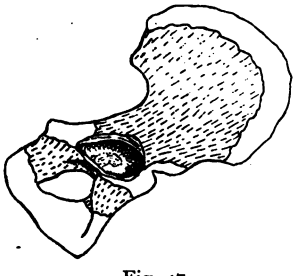

Fig. 47.

Fig. 48.

The latter is much contracted and the pubic part of the bone is bent outwards as is seen on comparing Fig. 46 with the normal bone of a fœtus as shown in Fig. 48. Fig. 49 shows the

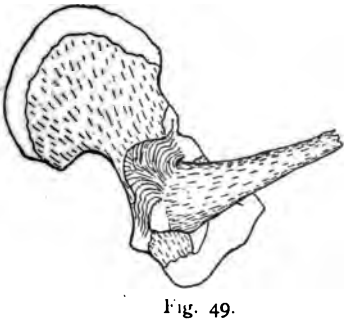

Fig. 49.

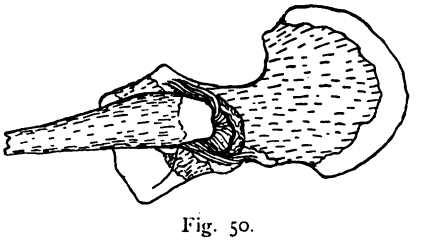

Fig. 50.

relation of the femoral head to the acetabulum when the parts were so placed that the joint was in the same state as when the fœtus was doubled up in the uterus. Fig. 50 shows the

[illegible] the capsule was opened, and Fig. 51 shows the joint

Fig. 52.

[illegible] by drawing down the femur and [illegible] Fig. 52 shows the head of one of the [illegible] teres is elongated and flattened [illegible] much flattened from side to side. Th

[illegible] the presence of numer[illegible] [illegible] supported his view that [illegible] produced by mechani[illegible] [illegible] the fœtus by an abnorma[illegible]

[illegible] of congenital equi[illegible] [illegible] of the inter[illegible] [illegible] external malleolus w[illegible] [illegible] the os calcis. Anot[illegible] [illegible] the tendo Achi[illegible] [illegible] of the os cal[illegible] [illegible] seven digits. [illegible] have milita[illegible]

he member's enjoyment of a normal range of intra-
ymnastics, and to have so caused the deformity.

ATLO-AXOID DISEASE.

ACKSON CLARKE showed a dissected specimen of
oid disease with Retro-pharyngeal Abscess. He did
k they would treat such a case on the expectant plan.
or many years been treated as a case of neuralgia. The
it of the abscess there was the same as elsewhere in the
He thought such an abscess was best reached by an
at the posterior border of the sterno-mastoid keeping
the plane of fascia that was continued into the pre-
l fascia. The drain track should be kept well behind
otid sheath. Although the patient was dying when
l into St. Mary's Hospital, an operation was done by
en, and gave relief to some of her head symptoms. She
septic meningitis.

GRATTAN'S OSTEOCLAST.

N. GRATTAN exhibited and demonstrated the mode of
s improved osteoclast (Fig. 53). The instrument was

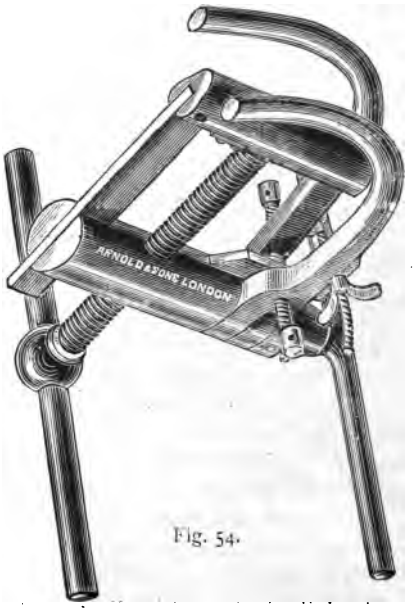

Fig. 54.

supported on the table by a cross bar, firmly attached to which was a central piece of iron which he called "the spindle" from which the working parts of the instrument acted. Two bars, which moved from side to side, together with the central pressure bar acting through the spindle, held the limb to be broken in position. The limb was broken by the central pressure bar which could only move in one direction,—straight forwards, being unable to rotate in any way. In the older machines, great difficulty was caused and much of the want of success of the instrument arose from lateral slipping of the bars over curved surfaces. In the improved instrument a projection from the central spindle passing down between the two bars prevented this. Each bar was secured in its place by two screws and could be separated to any distance. The alterations he had made were in the screws and in locking all three bars firmly together so as to prevent slipping.

Asked what protection he employed for the skin, Mr. Grattan answered, "None; with the new instrument, now two years in use, the skin has never cut." He had done about 220 cases and never lost one. One case of tetanus occurred after operation where there was no wound. The child recovered on the fifth day. As for delayed union, he had only had one case where it was delayed for three months, largely owing, he thought, to the child falling into bad health.

ORIGINAL OBSERVATIONS ON THE UNION OF TENDON AND THEIR PRACTICAL BEARINGS.

By A. H. TUBBY, M.S. Lond., F.R.C.S. Eng.

The views of the majority of the more recent observers, while coinciding on certain points, differ unduly in the following respect:—1. What is the influence of effused blood in the healing process? 2. Is the tendon capable of perfect regeneration? 3. By means of which kind of tissue is the healing brought about. To be more precise, which variety of tendon corpuscles is the most active? 4. Do the leucocytes take a principal or subordinate share in the regeneration? 5. What is the influence of the tendon sheath? 6. Can primary union of tendon be obtained? The observations were conducted on the tendines Achillis of rabbits, and specimens were submitted for microscopical observation at the 3rd, 7th, and 14th day, at the 4th, 5th, 8th, 9th, 13th, and 33rd week, and at the end of the 13th month. With reference to the influence of effused blood, it was shown that for firm union to take place, sufficient blood

must be poured out to fill the tendon sheath so that it retained its tubular form to the same degree as before operation, and further, that the effused blood formed a pabulum or *nidus* for the large plasma cells. That the tendon is not capable of perfect regeneration, even after 13 months, was shown by the fact that the fibrous tissue of the bond of union was not arranged in parallel striæ, and that the square fixed tendon cells were not present in it. As to the tissue, which was mainly instrumental in forming the new fibrous tissue, it was quite clear that the square fixed tendon cells took no part, that the leucocytes merely a subordinate one, and that the chief agents in the whole process were large plasma cells having the following characteristics : They are frequently multi-nucleated, they have several processes and are full of granular protoplasm. The *modus operandi* is as follows :—At first the effusion consists of red blood corpuscles, fibrin and leucocytes. The first two rapidly disappear, the latter more slowly under the influence of the plasma cells, which migrate from the cut ends of the tendon and from the tendon sheath. They seem to gradually absorb the leucocytes and take their place. These plasma cells subsequently develop into fibrous tissue and form also the cell-walls of temporary blood-vessels which run through the scar-tissue.

The integrity of the tendon sheath is essential. In the first place, it forms a bond of union between the cut ends of the tendon ; in the next place, lymph from its dilated vessels supplies nutriment to the effusion ; and thirdly, the plasma cells, as previously mentioned, migrate from the vessels situated in it. From a practical point of view any undue interference or laceration of the tendon sheath is very likely to be followed by faulty union or adhesion of the new material to the surrounding parts, with immobility of the tendon. Primary union of tendon can be obtained only by bringing the two ends in accurate apposition. The chief question that arises from these observations is whether gradual or immediate reposition of the deformed part should be practised after operation. The answer to this depends largely upon the structure and vascularity of the tendon sheath at the site of the division If this be loose and vascular, as in the case of the tendc Achillis near the heel, both immediate and gradual reposition have the same good result. If, on the other hand, the sheath be feebly supplied with blood vessels and firmly adherent, as for instance in the case of the extensors of the thumb where they pass over the lower end of the radius, immediate reposi-

tion of the deformed part will leave a gap in which the bond of union is feeble, or may be absent. It is better in such cases after section of the tendon to replace the part in the deformed position, thus separating the ends as little as possible, and so ensuring a good broad band of new tissue which can be sufficiently stretched subsequently.

DISCUSSION.

Mr. JACKSON CLARKE said he was able to corroborate what Mr. Tubby had said with regard to the earlier stages of repair in rabbits' tendons. It was surprising how rapid the process was. Within twenty-four hours in a rabbit's tendo Achillis there was a new bond of union as thick as the divided tendon, consisting of gelatinous lymph firm enough to dissect out. It seemed to him that it did not make the slightest difference how much the tendon was retracted; there was always the same uniting bond. At the end of forty-eight hours the lymph was everywhere traversed by anastomosing young connective tissue cells, which were formed by mitotic division from the endothelial and connective tissue cells and of the vascular spaces in the tendon. He, too, had found that the white corpuscles were in the end only eaten up by the young connective tissue cells in many cases after they had eaten red corpuscles, but they took no part in the process of permanent tissue building. At the end of a week the bond of union was equally large, and consisted of slender cells. Later, it was transformed into scar-tissue. The practical points appeared to be, first, that the union was sufficient, no matter how great the separation of the divided ends, so long as the tendon sheath was not much damaged; and second, the union was by scar-tissue, which must be prevented from contracting.

He was not prepared to be dogmatic on the point, but from his experience of the tendo Achillis, he should say that the result was likely to be better if immediate restoration to position was made instead of waiting and stretching afterwards, for the uniting bond at the end, say, of seven days had become fibrillated, the cells elongated and more or less parallel, and stretching at that time would more or less narrow the scar in the tendon, a result which would, he thought, be largely avoided if the position were rectified to begin with.

Mr. MUIRHEAD LITTLE, referring to the practical application of the subject, said that for a good many years he never employed the immediate correction of deformities, and got very good results, while of late years he had resorted to imme-

diate correction, and had also got good results; so that it seemed, except in the saving of time, the difference clinically was not very great.

THE TREATMENT OF ABSCESS IN POTT'S DISEASE.

By A. H. TUBBY, M.S. Lond., F.R.C.S. Eng.

The form of abscess may be psoas, lumbar, iliac and pelvic. In gravity they may vary from a small collection of pus coming to the surface as directly as possible, or they may be enclosed in enormous cavities extending between plains of connective tissues in so devious a manner as to baffle all attempts at radical treatment. The methods of treatment open to us are six: (1) the expectant; (2) aspiration; (3) aspiration with the injection of fluids; (4) incision and drainage with or without washing out the cavity with antiseptics; (5) the method advocated by Treves and others; (6) complete removal of the sac by dissection.

1. *The Expectant Treatment.* The indications are: when the abscess is apparently single and not tracking in two or more directions; when the recumbent position is followed immediately by cessation of pain and improvement of the general health; when, after waiting some time, the abscess ceases to enlarge; and if throughout the treatment the appetite is good and the temperature normal. In fact, in those which were formerly designated as "cold."

2. *Aspiration.* It is evident that evacuation by this method can only be of service when the contents of the abscess are entirely sero-purulent. In the great majority large caseous clots are found. Aspiration fails to remove these. It is urged in favour of aspiration that absorption is promoted; by what means it is impossible to say.

3. *Aspiration with Injection of Fluids.* If the statement with regard to aspiration is correct, that its application is very limited and unsatisfactory, in so far that it leaves caseous masses behind, then it is difficult to understand how the injection of antiseptics can be at all efficacious. Do we expect that the caseous matter will be rendered inert?

4. *Incision and Drainage* with or without washing out the cavity with antiseptics. The localised form of abscesses are readily dealt with and do well, but those which track in various directions frequently give unsatisfactory results. An essential

point in the treatment is strict antisepsis from first to last. If pus be present on both sides of the spinal column, it is better to make bilateral incisions since a communication often exists and if only one side is opened pus may well over from the other side.

5. *The Method advocated by Treves, Barker, and others.* The object of this procedure is to place the treatment of spinal abscess on the same footing as that of caries of bone elsewhere, namely, removal of the source of trouble and thorough cleansing of the abscess cavity. But be it remembered that while the diseased bone may with comparative ease be removed if the laminæ, transverse processes and ribs are affected, it cannot often happen that large sequestra in the vertebral bodies are so accessible and so loose that a pair of forceps or fingers working through a lumbar incision can dislodge them. Certain cases are recorded attended by brilliant success, but what is most desirable is to have the failures submitted for criticism as well.

6. *Complete Removal of the Sac by Dissection.* This is very rarely possible. Mr. Watson Cheyne, in a paper on the treatment of spinal abscess, has alluded to a case in which he was able to dissect out the sac and remove the spinous processes, the wound healing by first intention. The treatment of spinal abscess may be summed up as follows :—1. Receding abscess and quiescent foci are best treated on the quiescent plan. 2. Aspiration is to be avoided, unless in the case of a small residual abscess following a previous attempt by the radical method to obtain primary union, and when the abscess is so deeply situated and in such immediate contact with serous membranes and viscera that further scraping is dangerous. Cervical abscess should not be opened through the pharynx, unless dyspnœa and dysphagia are urgent, but at the side of the neck. 4. Psoas and lumbar abscesses are best treated by the method of Barker, Treves, and others. 5. The radical method is more likely to be successful if the bone disease be quiescent or healing. 6. Opening in or near the groin is not permissible in children, and drainage tubes are sources of trouble both from the danger of septic infection and the risk of converting the track of the tube into a tubercular sinus. 7. The merits of the lumbar incision are great, but its application is limited, and very frequently an incision, as for the ligature of the external iliac artery by Astley Cooper's method, is preferable. 8. The removal of large sequestra of bone by cutting down on the vertebral column

is very problematical; and in a large number of cases no such proceeding is called for, the diseased bone being simply carious or caseous on its surface. 9. Dissection out of the sac is not often possible, but should be attempted when feasible.

DISCUSSION.

Mr. ROBERT JONES said that in some respects he agreed with Mr. Tubby, but in many essential ones he disagreed with him. In the first place, he disagreed with the opinion that it was problematical whether abscesses disappeared spontaneously or not. Some time he might have the opportunity of showing cases of that type where a very large proportion, if the waiting were sufficiently patient, had resulted in a complete disappearance so far as could be told without killing the patient and making an anatomical dissection. Mr. Tubby had drawn attention to an interesting point which he had noticed over and over again, namely, the peculiar nomadic habit of abscesses, as when an abscess in the hip joint, which it has not been deemed advisable to open, after a time becomes extra-articular, evidently by the same process as in the interesting case cited where the abscess travelled from the loin into the thigh. He was convinced that the majority of abscesses in the neighbourhood of dead bone in connection with the spine were best left alone; that a very large proportion of them recovered, and that the cases reported of success were only a tiny drop in the ocean of those which were not successes. It was only now and again that a fillip was given to general surgery by the publication of cases which happened to be successful.

Mr. JACKSON CLARKE said with regard to psoas abscess, he was taught, when a house surgeon, by his senior, Mr. Edmund Owen, to open them in the loin, and he had never seen reason to depart from that. Latterly he had adopted the proceeding recommended by Mr. Treves, and washed them well out after scraping with the finger as much as possible and sponging out. The most important point in the operation was to keep close to the transverse processes in dividing the attachments of the quadratus lumborum. For himself, he should not be inclined to let an abscess wander about him, but would prefer to have it opened as soon as possible.

Mr. MUIRHEAD LITTLE, speaking with reference to shock in psoas abscess said, he had in the hospital a case of iliac abscess which was opened, but directly an attempt was made to wash it out by forcing any injection into the cavity, the

patient at once began to vomit and displayed all the symptoms of shock, so that it was almost impossible to carry out the washing. Dr. V. Ménard, of Berck-sur-Mer, had lately published a proceeding for the treatment of paraplegia, the division of a rib, removal of a transverse process, and looking for the abscess. In a case of paraplegia he had done that himself a few weeks ago, and Mr. Tubby had done it only that week. The two cases illustrated what often happened in paralysis from Pott's disease, namely, that it was impossible to foretell what would be found. He had found the transverse process slightly carious and opened an abscess; while Mr. Tubby went as deep and even further and found nothing. There was nothing in the two cases to show why abscess should be found in the one case and not in the other. He was strongly in sympathy with what had been said as to leaving these abscesses alone. During the treatment of the Pott's disease the patient had to be kept on his back for some time, and it did not seem to him time altogether lost in waiting for the "residual abscess." He had also had good temporary results from scraping out a large abscess. He had had a case in which it entirely healed up, but a year after the boy had been allowed out, one of the scars broke down; that was cauterised with silver nitrate, but suppuration recommenced and was still going on to some extent, so that the immediate encouraging results were not always permanent in these tubercular cases.

Mr. LUKE FREER was quite of the opinion that the longer these abscesses were left alone the better, unless something very definite showed itself. Of course, if there were severe pressure symptoms, or there was a tendency to break down, the abscess should be opened. Aspiration he always found unsatisfactory, the pus being so thick and cheesy that it was better to make an incision. He generally used a weak solution of iodine as an injection with satisfactory results. He had seen a great number of cases that had disappeared spontaneously. Mr. Tubby might, of course, say that they had not disappeared, but had left behind a caseous deposit, but clinically they had disappeared spontaneously. Two or three of his cases only had died. One was a case of syphilitic caries in which at the *post mortem* the fourth, fifth, sixth and seventh cervical and the seven upper dorsal vertebræ were in a state of caries; there was one huge abscess sac, and a spicule of bone had penetrated the arch of the aorta setting up bleeding from which the patient died. Another of his cases, that of a high retro-pharyngeal abscess, showed the necessity of making

the incision sufficiently boldly. It was a private case with which he was sitting up all night. He had, as he thought, put the tenotome well back to the spine, but no pus came from it. Every moment threatened to be the last, so he made another plunge, when the knife went right to the bone and the pus welled out. The boy made a good recovery, but died some eight or ten years afterwards from pneumonia.

The meeting terminated with a vote of thanks to the Committee of the Hospital for the use of the rooms.

FIRST ANNUAL MEETING.

Held at the ROYAL ORTHOPÆDIC HOSPITAL, Oxford Street, December 18th, 1895.

Present: Messrs. Ewens, Vincent Moxey, Jackson Clarke, Openshaw, D'Arcy Power, Reeves, B. E. Brodhurst, Keetley, Sunderland, Little, and the Hon. Secretaries, Messrs. Luke Freer and A. W. Tubby; also as visitors, Messrs. Baker, Sayers, and Tombs, and Doctors Moulonguet (Amiens), and Calôt (Berck-sur-Mer).

Mr. Brodhurst was voted to the chair. The Hon. Treasurer's and Hon. Secretaries' reports were read. The former showed that up to November 1st, the end of the financial year, the receipts were £12. 2s. 6d.; expenditure £11. 14s. 9d., leaving a balance of 7s. 9d., which, with eight subscriptions still unpaid, would give a balance of £4. 11s. 9d. to the credit of the Society. The latter, after mentioning the satisfactory state of the membership for the first year, went on to state that "It had long been felt by those interested in Orthopædic work, that the subject demanded more concentrated attention than could be given by the various Societies in existence. This feeling found its expression in an informal meeting held at University College, Bristol, on Friday, August 3rd, 1894, during the meeting of the British Medical Association in that city. Eight of the present members attended, and letters were read from six other gentlemen expressing their adherence to the proposal. The result was that the formation of the Society was determined on there and then, and Mr. Luke Freer consented to undertake the duties of Honorary Secretary *pro tem.*

"The First General Meeting was held at the Holborn Restaurant on Saturday, November 3rd, 1894, when thirteen gentlemen were present and twenty members were elected *en bloc.* The Rules for the government of the Society were

discussed at some length, and it was resolved to leave the framing of the details to a Council to be then elected. Mr. Keetley was elected Honorary Treasurer, Mr. Luke Freer Provincial Honorary Secretary, Mr. A. H. Tubby, Town Honorary Secretary, and a Council of ten was formed.

"It was decided not to elect a President, but rather to ask one of the members present to act as Chairman at each meeting, thus following a precedent of some of the younger Societies, and placing the meetings on a somewhat informal but social basis.

"The Society now consists of 31 members, and it is hoped before the close of the present session that this number will be much increased, as there must be many gentlemen interested in Orthopædic Surgery who have not yet signified their intention of joining the Society.

"Four meetings have been held, three in London and one in Liverpool, where we received most cordial welcome and much kindly hospitality; the incidents of the meeting included visits to the Royal Infirmary, Southern Hospital, and the Children's Infirmary; the collection of orthopædic cases shewn at the evening meeting was unique in excellence and interest.

"Considering the small number of members, the meetings have been well attended and have been characterised by sustained interest and enthusiasm. The communications brought forward have been full of interest in all branches of Orthopædic Surgery, and the Hon. Secretaries would record their gratitude for the great willingness shown by members in reading papers and communicating cases. Indeed, so freely have these communications been offered that the Hon. Secretaries have sometimes wondered if the programme of each meeting could be fully carried through. They would express the hope that in this respect the coming year may prove as fruitful as the past. One of the features of a Society like this should be the annual publication of its transactions. In the American Orthopædic Society's Transactions we have a model to follow, and an example to emulate, and it is to be hoped that we shall be able without unduly straining our resources to publish yearly a volume, in which the collected experience of members will be presented to the profession, at home and abroad, in a manner worthy of wide recognition, on account of the merits of its contents and the excellence of its illustrations.'

Mr. EWENS proposed and Mr. D'ARCY POWER seconded, "That the reports be adopted and entered on the minutes"; (carried).

Mr. Keetley was re-elected Hon. Treasurer.

Messrs. Reeves, D'Arcy Power, and Grattan, having retired from the Council by ballot, Messrs. Openshaw, Brodhurst, and Rawdon were elected to fill the vacancies.

The subject of publishing the Transactions was discussed, and it was resolved, "That a sub-committee consisting of Messrs. Reeves, D'Arcy Power, the Hon. Treasurer, and the Hon. Secretaries, be authorised to deal with the subject."

ORDINARY GENERAL MEETING.

An Ordinary General Meeting was held immediately after the Annual Meeting.

CONGENITAL HIP DISLOCATION.

Mr. REEVES showed a case of congenital hip dislocation, and demonstrated his instrument for extension and counter extension in such cases.

Mr. KEETLEY also showed a case strongly resembling congenital dislocation of the hip. In the discussion that followed, Mr. Keetley stated that the remarkable degree of wobbling seen in the gait of the little girl he exhibited, co-existing with some lordosis, led him to ask, Can this be an early stage of one of the cases, which after the age of 3 or 4, gradually assume the characters of "congenital" dislocation of the hip, the femoral head slipping higher and higher and getting looser and looser? But on examining it again carefully, he believed it to be simply a case of rectangular position of the neck to the shaft of the neck, "varus of the neck." The latter condition is more frequently associated with genu valgum, and it seemed to him reasonable to suppose that the femoral neck deformity was then the primary curve, and the genu valgum a secondary or compensating curve, although the condition of the femoral neck escapes notice for obvious causes, and genu valgum, owing to its obstrusiveness, is always regarded as the primary curve. A rachitic femur would, from its shape, be likely to bend at the angle of the neck and shaft before yielding in any other situation.

Mr. REEVES said he was indebted to Mr. Keetley for having shown this case. It was quite possible for a Surgeon to make

a mistake between coxa vara and congenital dislocation, therefore such cases were interesting from a diagnostic point of view. He thought that the case Mr. Keetley had shown was one which would be best left alone. Referring to his (Mr. Reeves') instrument for congenital dislocation, an attempt was made, in the first place, to replace the head in the acetabulum by manipulation as in a traumatic dislocation. If that should fail, he would proceed by a method modified from Paci. He then placed the limb in the apparatus, which permitted of a double extension so to speak, and at the same time allowed the child to walk. In this apparatus it was necessary to be on the look out for mechanical stiffness of the knee. He had tried dorsal decubitus and had not found it successful. As to the open method of treating congenital dislocation, he had not once performed any operation of this description. He did not believe in operative procedures for these cases, and would not until he was fully convinced that after the operation the cure was permanent. He did not think this could be so, because there was not depth of bone enough to hold the femoral head in place; if there were sufficient depth, then anchylosis and not good movement must necessarily ensue.

Mr. BRODHURST said congenital dislocations of the hip, as they are generally understood and as they are described in museums, may be divided into four categories, namely:—

1st. Dislocations occurring *in utero* at a time probably when development is yet incomplete.

2nd. Those which are produced at birth, and in which both the acetabulum and the caput femoris are perfect.

3rd. Displacements which result from inflammation and destruction of the joint.

4th. Malformations where the head of the femur is imperfect and the acetabulum is absent, or its position only is indicated.

Thus congenital dislocations of the hip belong to the first class alone, for the second and third classes are produced when the parts are beyond the uterus, and the fourth contains simply malformations; yet these various conditions are described as congenital dislocations, as though they owned a common cause. Of these varieties the second especially can be treated with certainty and advantage; and this class admits of complete restoration, so that not only may the head of the bone be replaced in the acetabulum, but mobility will be perfect as well as the length of

the limb. If dislocation is discovered when the child begins to walk, or within three years of age, reduction may be effected immediately, as in ordinary dislocation; but if the acetabulum has become filled with fatty and fibrous substances, these must first be cleared out with the curette, so that the femoral head may be deeply and firmly lodged, and if muscular retraction has taken place, such muscles must be divided—namely, the trochanteric muscles the adductors and perhaps others. It is useless to draw down the head of the femur when these muscles are retracted, for displacement again takes place so soon as extension is remitted.

Dr. CALÔT also spoke on the subject at the invitation of the Chairman, dwelling mainly on the results of various measures adopted in France in such cases.

Messrs. BAKER and WALSHAM had on view some interesting cases of congenital absence of fibula.

Mr. BRODHURST showed a cast of a severe case of talipes equino-varus.

Mr. EWENS showed casts of a severe case of talipes calcaneo-valgus in an infant.

Mr. BAKER demonstrated the action of his wrench for talipes equinus and varus.

The meeting terminated with a vote of thanks to the Committee of the Royal Orthopædic Hospital for the use of their Board-room for the meeting.

Balance Sheet of British Orthopædic Society,

Dr. *for Financial Year ending November 1st, 1895.* **Cr.**

	£	s.	d.		£	s.	d.
To 22 Subscriptions received	11	11	0	By Printing and Stationery	5	6	0
„ 6 Subscriptions not received by November 1st	3	3	0	„ Reporting, Copying, etc.	4	8	6
„ 2 Unpaid Accounts	2	5	0	„ Initial Expenses	1	10	0
„ Deficiency	0	3	9	„ Petty Cash, including Postage ...	1	10	3
				„ Refreshments	1	5	0
				„ Subscriptions not Received ...	3	3	0
	£17	2	9		£17	2	9

June 15th, 1896.